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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/542,942	03/31/2000	Stephen S. Ho	M0635/7065 (RJK)	4931

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EXAMINER

ABDULSELAM, ABBAS L

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 01/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/542,942

Applicant(s)
Stephen S. Ho et al.

Examiner
Abbas Abdulsalam

Group Art Unit
2674



☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-34 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-34 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 7

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections 35 U.S.C. 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 1-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosenberg et al. (USPN 6278439).

Regarding claims 1, 9-10, 26 and 34, Rosenberg teaches computer systems including simulations; and computer interface devices which provides forced feedback (haptic feedback) to the user. See column 1, lines 17-26 and 41-43. Rosenberg teaches an interface device (14) which includes a user object (34) and local memory (27) See column 5, lines 1-3 and Fig 1. The memory stores instructions, temporary and other data. See column 7, lines 60-63 and Fig 1. In the context of the user object, Rosenberg teaches a car simulation involving a steering wheel and a pothole. Rosenberg teaches conditions in order that the user has a physical feel of manipulating the steering wheel, and the condition force is a function of the steering wheel. In addition, Rosenberg teaches the generation of an effect external to steering wheel manipulation such as hitting a pothole or getting side wiped by another car. See column 14, lines 1-3, and column 15, lines 1-10. Rosenberg teaches a vector representing a force and the generation of feel sensation and its

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representation in simulation. See column 3, lines 17-37. Moreover, Rosenberg teaches control parameters (206) regulating the feel of force, application parameters (210) indicating the vector or direction of the force, and trigger parameters (212) showing the execution of a defined effect. See column 16, lines 8-10, column 18, lines 1-6, 13-17 and Fig 5. Rosenberg also teaches the use of tools such as laparoscopic, steering wheel, catheter and associated interfacing with host application programs. See column 11, lines 18-34. Therefore identical systems and method are disclosed as taught by Rosenberg.

Regarding claims 2 and 27, Rosenberg teaches an interface device (140) with the desired degree of freedom. See column 8, lines 57-60.

Regarding claims 3, 23 and 28, Rosenberg teaches about stiffness property with respect to force vs. Displacement profile. See column 13, lines 26-28 and Fig 3a.

Regarding claims 4, 18 and 29, Rosenberg teaches a sensor (28), and a sensor interface (36) which are related to binary representation of signals. See column 9, lines 10-20 and Fig 1.

Regarding claims 5 and 30, Rosenberg teaches Hook's law, an equation represented by $F = k \cdot d$, where F is proportional to displacement (d).

Regarding claims 6, 13-16, 19 and 31, Rosenberg teaches a Force vs. Displacement, graph (181) with stiffness conditions; and the applied force being zero at region (182). See Fig 3b. Rosenberg teaches representation of "feel sensation" in terms of magnitude, frequency and duration. See column 2, lines 55-63. Rosenberg also teaches a sensor for detecting a position of the user object. See column 3, lines 33-36.

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Regarding claims 7 and 32, Rosenberg teaches the source wave which is of a type “force profile”, a series of pre-defined digital force values that can be stored in a storage device. See column 15, lines 66-67 and column 16, lines 1-7.

Regarding claims 8 and 33, Rosenberg teaches that the user can use the computer system in conjunction with supplied feedback when grasping or contacting the object of the interface device. See column 1, lines 49-57.

Regarding claims 11-12, Rosenberg teaches about a processor (26) that reads sensor signals and calculates appropriate forces from sensor signals. See column 7, lines 48-52. Rosenberg also teaches a microprocessor (26) coupled with a local memory (27) in order to receive and provide signals in accordance with instructions provided by a host computer. See column 7, lines 60-66.

Regarding claims 17, 20 and 21, Rosenberg teaches a stiffness condition through force vs. Displacement graph (180) where the applied force is continuous. See Fig 3a.

Regarding claim 22, Rosenberg teaches conveying a “feel sensation” as strong impact followed by subdued steady state force level. See column 17, lines 37-40.

Regarding claim 24, Rosenberg teaches a 2D and 3D angle parameters to indicate the direction of effect application. See column 18, lines 9-13.

Regarding claim 25, Rosenberg teaches about directional parameter constraining the force signal to have specific values and direction. See column 19, lines 38-43.

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Conclusion

2. The prior art made of record but not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. Pat No. 5,736,978 to Hasser et al.

U.S. Pat No. 5,923,318 to Zhai et al.

U.S. Pat No. 6,113,395 to Hon

U.S. Pat No. 6,292,170 to Chang et al.

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3. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

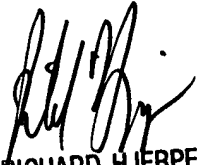
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to crustal park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Abbas Abdulsalam

Examiner

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